Validity of maternal-reported weight and height of children 2-5 year olds

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To the Editor: In affluent-urban areas of India, overweight (6%) and obesity (8%) is prevalent in children as young as 2-5 years [1]. A potential risk factor for childhood obesity could be parent's under-reporting their child's anthropometry. In Indian culture a larger body size is typically acceptable, and mothers may consider a chubby baby as healthy [2]. Therefore, it was proposed that Indian mothers may under-report their child's weight status. The present study examined the validity of maternal reported height and weight of young, urban-affluent Indian children aged 2-5 years.

After receiving approval from the QUT Human Research Ethics Committee, Australia 111 mothers with children aged 2-5 years attending private medical clinics (n=5) in the affluent areas of Mumbai were recruited. Child height and weight were measured by the researcher using standard equipment/protocols. Mothers also reported their child's height and weight.

Mothers significantly under-reported their child's height (mean difference: -11.3±22.2 cm, $t(83) = -4.7$, $p<0.001$). No difference was observed between measured and reported mean weight (mean difference: 0.0±3.9 kg, $p=0.91$). Only the weight data was further investigated by categorizing the child's weight status according to Weight-for-Age Z-scores cut-offs [3]. There

was no difference between measured and maternal reports for underweight (32.4 % vs 30.0 %, p=0.89) and healthy weight (59.5 % vs 69.1 %, p=0.25) children. In contrast, a lower proportion of children were classified as overweight/obese based on maternal reports (8.1 % vs 0.9 %, p=0.02). These findings were further confirmed as both the sensitivity and specificity for identifying overweight/obesity in children were significantly lower (90.0 % vs 10.0 %, p=0.02 and 51.7 % vs 48.3 %, p=0.02, respectively) using maternal reported weight compared with measured weight.

This study showed that mothers under-reported their child's height and overweight/obese status. The results imply that parents who underreport their child's overweight/obese status may have poor awareness about their child's true weight, and thus may be less willing to adhere to health professionals' weight management recommendations and participate in interventions promoting a healthy lifestyle [4]. In conclusion, this study confirms the importance of using measured height and weight data in this population.

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